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EXAMINER

CZEKAJ, DAVID J

ART UNIT PAPER NUMBER

2613

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/503,477

Applicant(s)

SHIYAMA, HIROTAKE

Examiner

Dave Czekaj

Art Unit

2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-57 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 23-28, 45-47, and 57 is/are rejected.
- 7) ☒ Claim(s) 7-22, 29-44 and 48-56 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 May 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claims 1-57 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-6, 23-28, and 45-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al. (5802361), (hereinafter referred to as "Wang") in view of Wang et al. (5805733), (hereinafter referred to as "Wang2") in further view of Kikuchi et al. (6219382), (hereinafter referred to as "Kikuchi").

Regarding claims 1, 23, and 45, Wang discloses a system that searches images having a particular attribute and classifying the images according to their attributes (Wang: column 1, lines 6-10). This system comprises "extracting frame image data from moving image data, segmenting the frame image data into blocks, and assigning labels in accordance with feature amounts obtained in units of blocks" (Wang: figure 2a, item 201, wherein the video is inputted into the system, column 10, lines 42-43, wherein the frames are extracted, column 10, lines 23-25, wherein the images are segmented into blocks, column 11, lines 22-24, wherein the labels are the summary files that identifies images from each

scene, figure 3, item 303, wherein examples of the features are the color histogram and texture), "accumulating the sequential label set" (Wang: column 11, lines 23-24, wherein the labels are the summary files that identifies images from each scene, the labels are stored/gathered or accumulated in the file), "computing similarities between the generated sequential label set and the label sets of a previous frame" (Wang: figure 10, wherein the labels are searched and compared against a threshold to determine the similarity between them), "detecting a scene change frame from a group of computed similarities" (Wang: figure 1, item 127), and "means for storing information of the detected scene change frame" (Wang: figure 1, item 107). However this apparatus lacks generating a label set by arranging the label in a predetermined order and detecting a scene change from a plurality of similarities as claimed. Wang2 teaches that frames are ordered according to the position of scenes they represent in the video (Wang2: column 3, 62-64, figure 3, wherein the generated label set is shown). Kikuchi teaches that prior art detection systems tend to use assumptions and are affected by noise (Kikuchi: column 1, lines 25-35). To help alleviate this problem, Kikuchi discloses "detecting a frame as the scene change frame when a plurality of similarities are less than a predetermined value" (Kikuchi: column 15, lines 60-67 – column 16, lines 1-18, wherein the similarities are the calculated similarities between blocks. The examiner further notes that there are many methods for calculating scene changes by comparing similarities to a threshold value, such as those seen in Wang2, wherein similarities are

greater than the threshold to indicate a scene change as opposed to less than a threshold as seen in Kikuchi). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to take the system disclosed by Wang, add generating a label set in a predetermined order taught by Wang2, and add the scene change detection means taught by Kikuchi in order to obtain an apparatus that operates more efficiently by having a reduced noise output and which easily finds the labels by having them in order.

Regarding claims 2, 24, and 46, Wang discloses that the "information of the scene change includes an elapsed time from the beginning of the moving image to the detected scene change frame" (Wang: column 11, lines 21-22, wherein the elapsed time is the time index of scene changes).

Regarding claims 3 and 25, Wang discloses "labels are unique labels given to individual cells obtained by segmenting the feature amount space into a plurality of cells, and computes a feature amount for each block and assigns that block a label" (Wang: column 12, lines 52-58, wherein the cells are the distinct regions obtained by segmenting the object, column 13, lines 54-57, wherein the text is the unique label).

Regarding claims 4 and 26, Wang discloses that the "moving image is a color image" (Wang: column 11, line 47, wherein a color histogram is determined for the images), "feature amount corresponds to a position of a color element value in the feature space" (Wang: column 12, lines 58-67, column 13, lines 1-49, wherein the pixels in the feature space are tested to see if they match a

particular color in a matching template based on their position), and the “labels are unique labels give to cells obtained by segmenting the feature space into cells” (Wang: column 12, lines 52-58, wherein the cells are the distinct regions obtained by segmenting the object, column 13, lines 54-57, wherein the text is the unique label).

Regarding claims 5 and 27, Wang discloses that the “blocks are obtained by segmenting an image into a plurality of vertical and horizontal blocks” (Wang: column 13, lines 3-4, wherein the horizontal component of the blocks is the M direction and the vertical component of the blocks is the N direction” and “the block order used is an order in which the plurality of blocks are scanned in a horizontal or vertical direction” (Wang: column 13, lines 3-11, wherein each block is scanned until completed).

Regarding claims 6 and 28, Wang2 discloses “scene change determination means comprises determining a scene change when the similarity is not more than a predetermined value” (Wang2: column 4, lines 17-24, wherein the color histogram distribution is compared with a threshold to determine a scene change).

3. Claim 47 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al. (5802361), (hereinafter referred to as “Wang”) in view of Wang et al. (5805733), (hereinafter referred to as “Wang2”) in further view of Kikuchi et al. (6219382), (hereinafter referred to as “Kikuchi”) in further view of Hirayama (EP 0 834 858 A2).

Regarding claim 47, not the examiners rejection for claim 1, and in addition, claim 47 differs from claim 1 in that claim 47 further requires computing the similarities using a DP method as claimed. Hirayama teaches that the DP method is a widely known method for recognizing patterns that involve time base patterns (Hirayama: page 2, lines 25-26). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to take the system disclosed by Wang, add generating a label set in a predetermined order taught by Wang2, add the scene change detection means taught by Kikuchi, and add the DP method taught by Hirayama in order to more efficiently find the labels by having them in order and compute the similarities since DP matching is well known in the art.

4. Claim 57 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al. (5802361), (hereinafter referred to as "Wang") in view of Wang et al. (5805733), (hereinafter referred to as "Wang2") in further view of Kikuchi et al. (6219382), (hereinafter referred to as "Kikuchi") in further view of Yoshida et al. (5166723), (hereinafter referred to as "Yoshida").

Regarding claim 57, note the examiners rejection for claim 1, and in addition, claim 57 differs from claim 1 in that claim 57 further requires changing the width of the window to account for shaking as claimed. Yoshida teaches that varying the window width can help reduce the presence of shaking in the camera shot (Yoshida: column 4, lines 60-68, column 5, lines 1-23). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention

was made to take the system disclosed by Wang, add generating a label set in a predetermined order taught by Wang2, add the scene change detection means taught by Kikuchi, and add the varying window method taught by Yoshida in order to receive better video footage by having the shakiness of the picture set to a minimum.

Allowable Subject Matter

5. Claims 7-22, 29-44, and 48-56 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dave Czekaj whose telephone number is (571) 272-7327. The examiner can normally be reached on Monday - Friday 9 hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Kelley can be reached on (571) 272-7331. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2613

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



CHRIS KELLEY
SUPERVISOR, PATENT EXAMINER